

Bicycle and Pedestrian Accommodations

Local Program Symposium

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Background – “Complete Streets”



What is a Complete Street?

Complete streets are roadways designed and operated to enable safe, convenient, and comfortable access and travel for all users. Pedestrians, bicyclists, motorists and public transport users of all ages and abilities are able to safely and comfortably move along and across a complete street



<http://www.completestreets.org>



Federal Highway Administration (FHWA) Programs

- ▶ Last 4 transportation bills supported bike and pedestrian accommodations
 - ISTEA
 - TEA-21
 - SAFETEA-LU
 - Map-21
- ▶ Emphasis on seamless transportation system that **all** users can use efficiently and safely
- ▶ Multimodal options routine
- Federal funds used on bike and pedestrian facilities and improvements



Federal Policy

Integrating Bicycling and Walking into Transportation Infrastructure

- ▶ Bicycle and pedestrian ways shall be established in new construction and reconstruction projects unless:
 - ...the law strictly prohibits bicycle and pedestrian travel on a particular roadway
 - ...the cost is excessively disproportionate to need or probable use (>20% of project cost)
 - ...population scarcity or other factors indicate absence of need



Wisconsin State Law - 2009

- ▶ Wis. State Statute 84.01(35) requires:
 - “...the department ***shall*** ensure that bikeways and pedestrian ways are established in all new highway construction and reconstruction projects funded in whole or in part from state funds or federal funds...unless an exception...”



WI Administrative Rule: Trans Code 75

- ▶ Distinguishes bicycle and pedestrian facility requirements for rural and urban areas, and details five exceptions set forth in statute
- ▶ Same exceptions as federal policy plus:
 - Absence of need due to traffic volume, or other factors
 - Excessive impacts in a constrained environment
 - ...community refuses to maintain pedestrian ways (sidewalks)
 - Must prove inability to maintain, no ordinance
 - Exception not allowed on National Highway System



WI Administrative Rule: Trans Code 75

- ▶ WisDOT policy for other project types, such as **resurfacing or reconditioning**, requires an evaluation to include bicycle and pedestrian accommodations where possible/practical within the scope of the project
 - Other roadway improvement project types still require consideration and potential inclusion of bicycle and pedestrian accommodations



Why?

- Equity
 - 1/3 of population doesn't drive
 - Everyone is a pedestrian
 - Unable to drive, or a modal choice
 - Bicycles are vehicles too
- Efficiency
 - 53% of all trips in urban areas < 3 miles
 - 60% of auto trips < 1 mile
 - WI 5% of population bikes to work; walking \approx 8% annual transportation trips



Why?

▶ Health

- ▶ 32% of American adults are obese
- ▶ Number of overweight and obese children tripled from 1980 to 2004
- ▶ 55% US adult population falls short of activity guidelines

▶ Safety

- Reduce bike, ped injuries/fatalities
 - 44 ped fatal/incapacitating and 1,236 injuries (2012 WI)
 - 11 bicycle fatal/incapacitating and 1,049 injured (2012 WI)
- Enhance safety for all users
 - including motorists



Bicycle Accommodations

Bicycle accommodations provide enough space on a roadway for a motorist to safely pass a bicyclist without changing lanes or entering an opposing traffic lane.

- May incorporate a range of facilities from widened roadways to designated bike lanes
- Review and evaluate existing conditions and how the roadway fits into state, regional, county, local plans
- Local connections and continuity
- Improve roadway conditions for all users



Types of Bicycle Accommodations



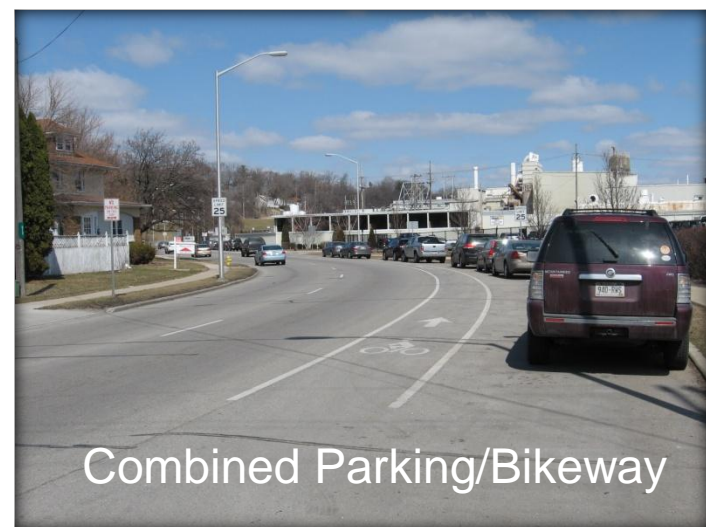
Paved Shoulder



Wide Outside Lane



Bike Lane



Combined Parking/Bikeway

Pedestrian Accommodations

Pedestrian accommodations make streets walkable by providing safe and convenient facilities for non-vehicle traffic along roadways.

- Ranges anywhere from sidewalks to traffic signals
- Designed to account for the different needs and abilities of a diverse population of users (e.g. children, elderly, physically challenged, etc.)

"Sidewalk" means that portion of a highway between the curb lines, or the lateral lines of a roadway, and the adjacent property lines, constructed for use of pedestrians. SS 84.01(35)(a)(2), 340.01(58) (22), 346.02(8)(a), Adm.Code 75.01(8)



Types of Pedestrian Facilities

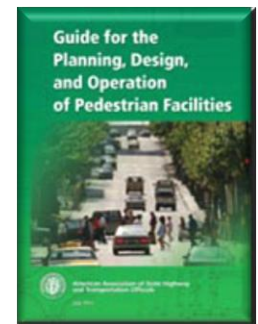
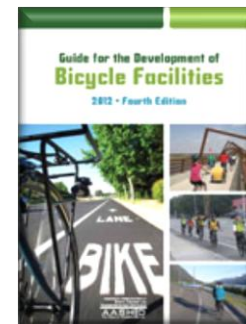
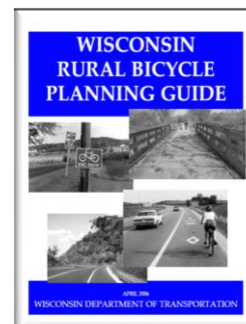
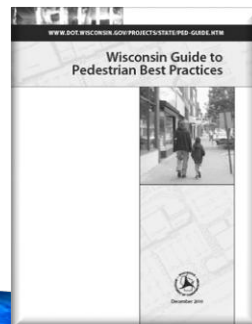
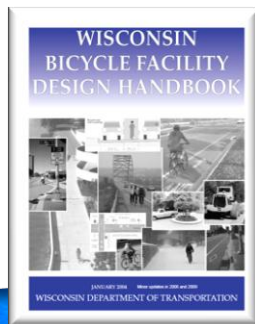


Resources and Methods

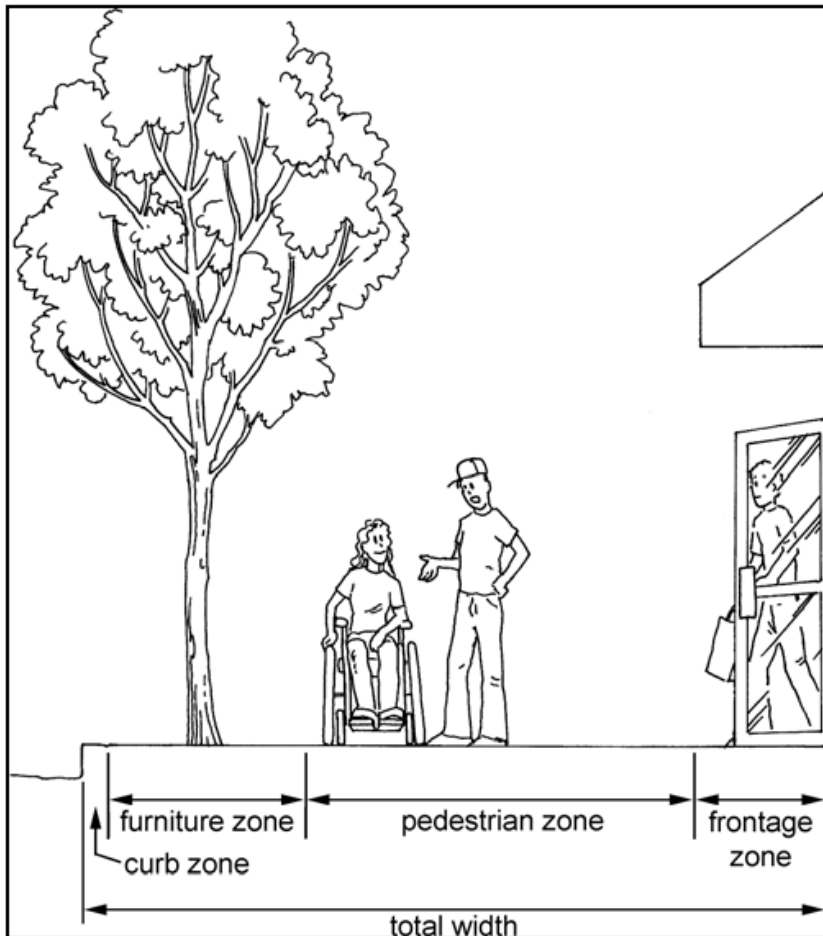


Resources

- ▶ Facilities Development Manual (FDM 11-46)
 - ▶ Consolidated Bike/Ped Chapter
- ▶ Wisconsin Bicycle Facility Design Handbook
 - <http://www.dot.wisconsin.gov/projects/state/docs/bike-facility.pdf>
- ▶ Wisconsin Guide to Pedestrian Best Practices
 - <http://www.dot.wisconsin.gov/projects/state/ped-guide.htm>
- ▶ AASHTO Guide for the Development of Bicycle Facilities, 4th Edition
- ▶ AASHTO Guide for the Planning, Design and Operation of Pedestrian Facilities



Pedestrian Accommodations



► “Furniture” Zone or Terrace

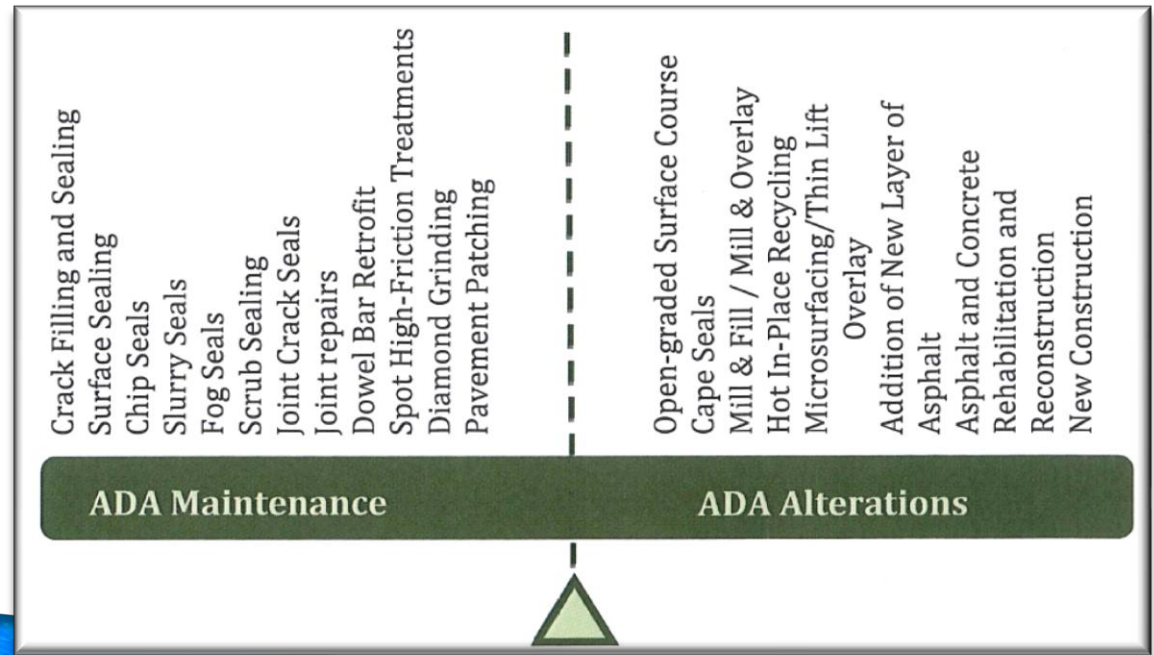
- Landscaping
- Signage
- Snow Storage
- Utilities

► Sidewalk

- Min. 5’ when next to a terrace of 3’ or greater
- Min. 6’ when next to a terrace of 3’ or less

Pedestrian Accommodations – Curb Ramps

- ▶ 2013 FHWA Memo: ***“Projects deemed to be alterations must include curb ramps within the scope of the project.”***
- ▶ This applies to all projects regardless of funding
- ▶ Combination of maintenance activities can equal an alteration
- ▶ http://www.fhwa.dot.gov/civilrights/programs/doj_fhwa_ta.cfm



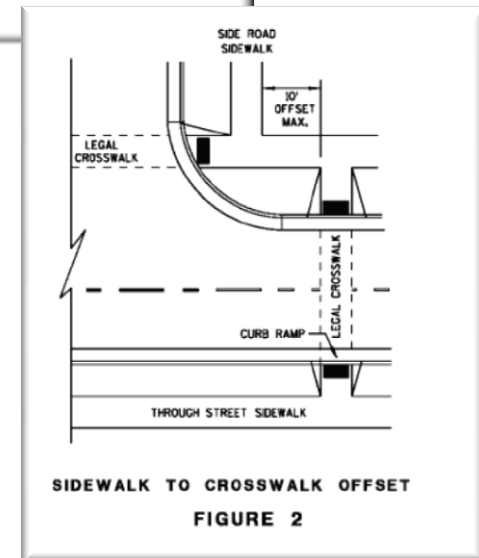
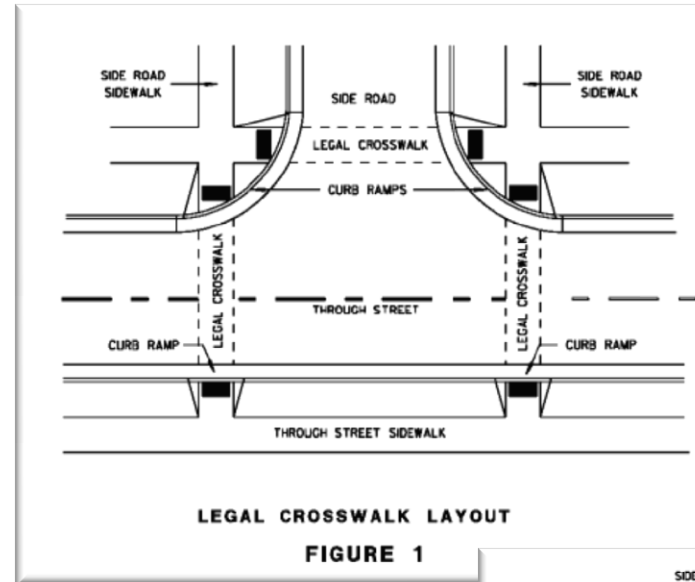
Pedestrian Accommodations – Curb Ramps

- ▶ FDM 11-46-10.2: Curb ramps ***with detectable warning fields*** shall be installed on projects with sidewalks including resurfacing, SHRM, and preventative maintenance
 - Detectable warning fields = truncated domes (no wire mesh)
- ▶ Provide curb ramps:
 - Where a sidewalk or other walkway crosses curb
 - Over or through any curbs or traffic islands
 - Construct ramps in pairs



Pedestrian Accommodations – Curb Ramps

- ▶ FDM 11-46-10 Curb Ramps
 - 10.1 General
 - “Curb ramps shall be provided for each sidewalk extended across the through street crosswalks as shown in Attachment 10.1, Figure 1, except as noted in FDM 11-46-10.1.1, ‘Crosswalk Closure’.”
 - “Curb ramps should not be offset more than 10 feet from a sidewalk extension without the approval of the Regional bike/pedestrian coordinator.”



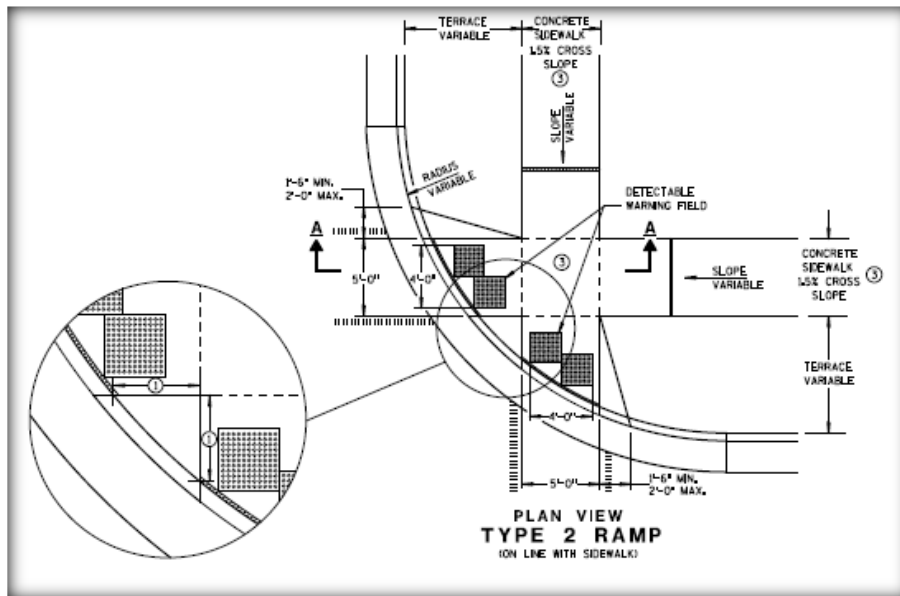
Pedestrian Accommodations – Curb Ramps

- ▶ FDM 11-46-10 Curb Ramps
 - 10.2 Curb Ramps and Detectable Warning Fields
 - “Curb ramps with detectable warnings shall be installed on all state or federally funded projects with sidewalks (including resurfacing, SHRM, and preventative Maintenance projects) where curb ramps do not exist or they are not ADA compliant.”
 - “***Use curb ramp Type 2 that is in line with the crosswalk (perpendicular ramp)*** because the crossing distance is shorter and it helps to align visually impaired people to the opposite side of the street. Where the Type 2 curb ramp is not technically feasible, ***a parallel ramp*** (two ramps both parallel to the direction of travel) ***is the next preferred ramp type.*** ***Lastly, a diagonal ramp*** may be constructed as a single ramp centered on the curb return (Type 1 or 1A).”

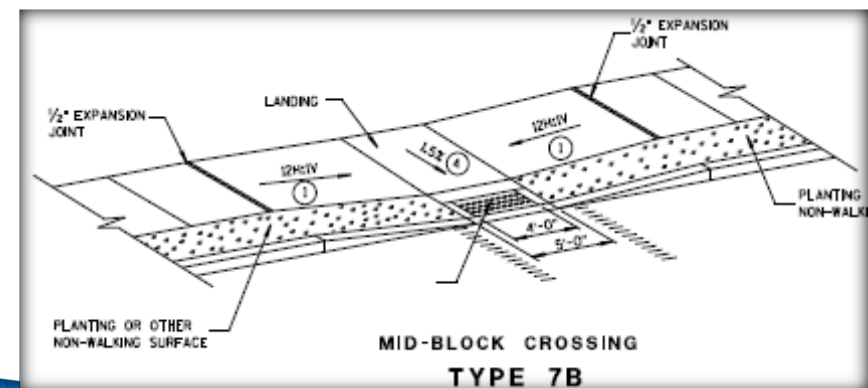
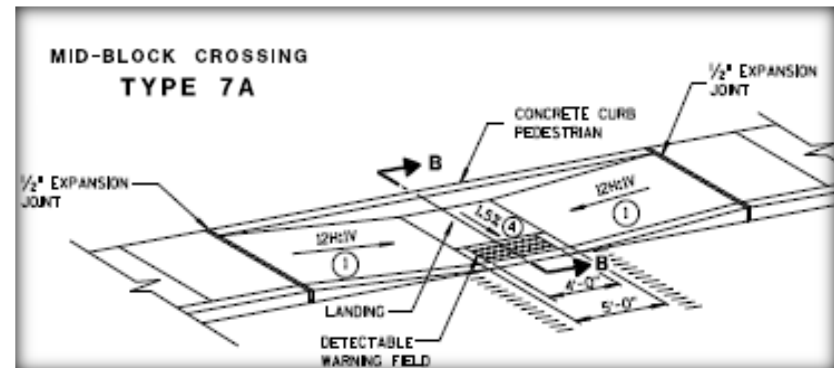


Pedestrian Accommodations – Curb Ramps

- ▶ Type 2/Perpendicular - Preferred

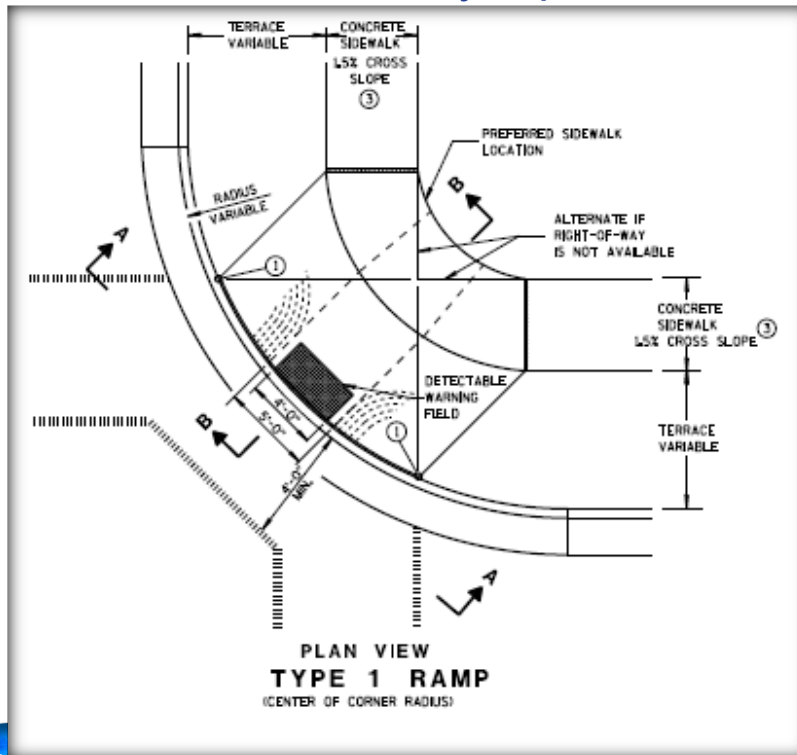


- ▶ Parallel Ramps – Next Alternative

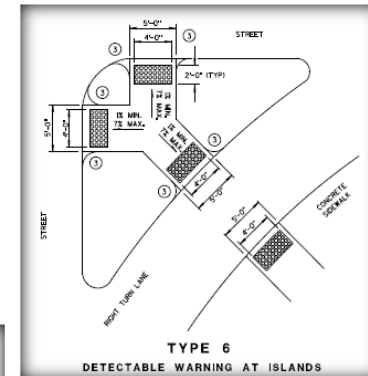
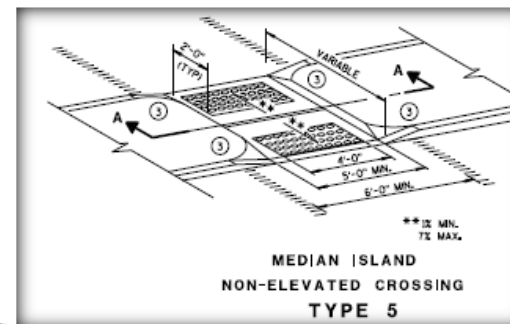
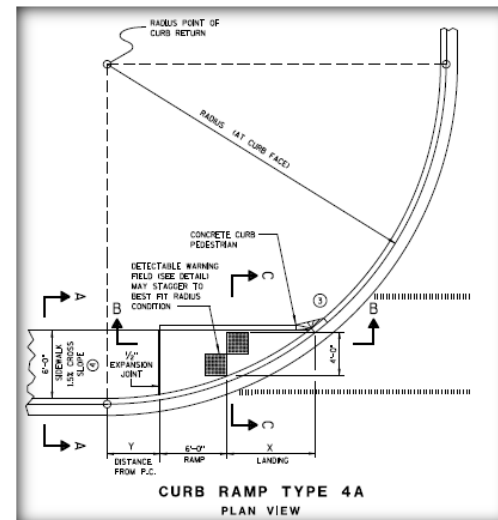


Pedestrian Accommodations – Curb Ramps

- ▶ Type 1/Diagonal – **Last Resort**
 - Don't automatically replace in kind



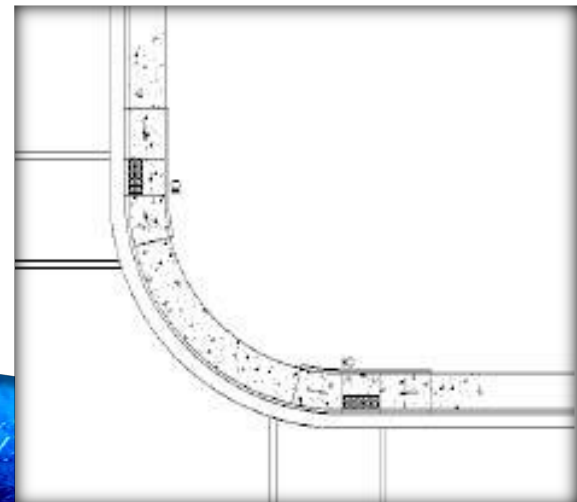
- ▶ Other Types
 - Specific Circumstances



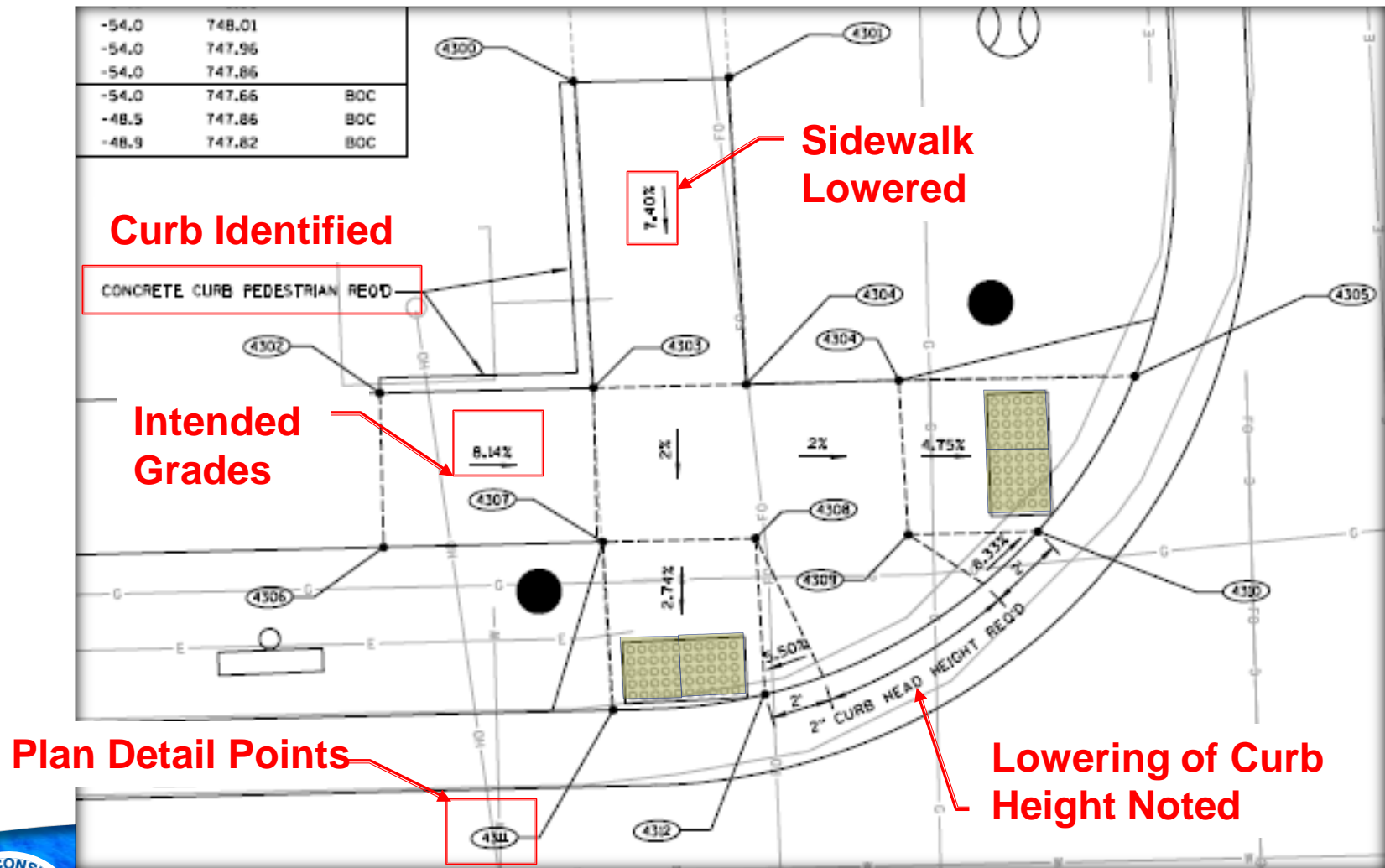
Pedestrian Accommodations- Curb Ramps

- ▶ Standard detail drawings (SDDs) are just a starting point
- ▶ Develop special/construction details that comply with ADA cross slopes, running slopes and other design criteria defined in FDM
- ▶ Coordinate survey needs early in design process
- ▶ Resource: *Planning and Design for Alterations*
 - <http://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/guidance-and-research/accessible-public-rights-of-way-planning-and-design-for-alterations>

Example: Parallel curb ramps at intersection



Curb Ramps – Sufficient Layout Information



Pedestrian Accommodations – Curb Ramps

- ▶ **Technically infeasible:** existing physical constraints limit ability to meet the current ADA standards - *then* upgrades must be done to provide access to the maximum extent feasible (practicable within the scope) - **LAST RESORT**
- ▶ **Example:**
 - Three (3) intersections, 4 quadrants (total 12 corners)
 - Curb ramp upgrades at 10 corners can be accommodated— include in project and meet current ADA standards
 - Remaining 2 corners may be deemed technically infeasible
 - Improve to maximum extent practicable w/project
 - Meet ADA design standards with future improvement project
 - Document in DSR and technically infeasible form (in development by WisDOT)



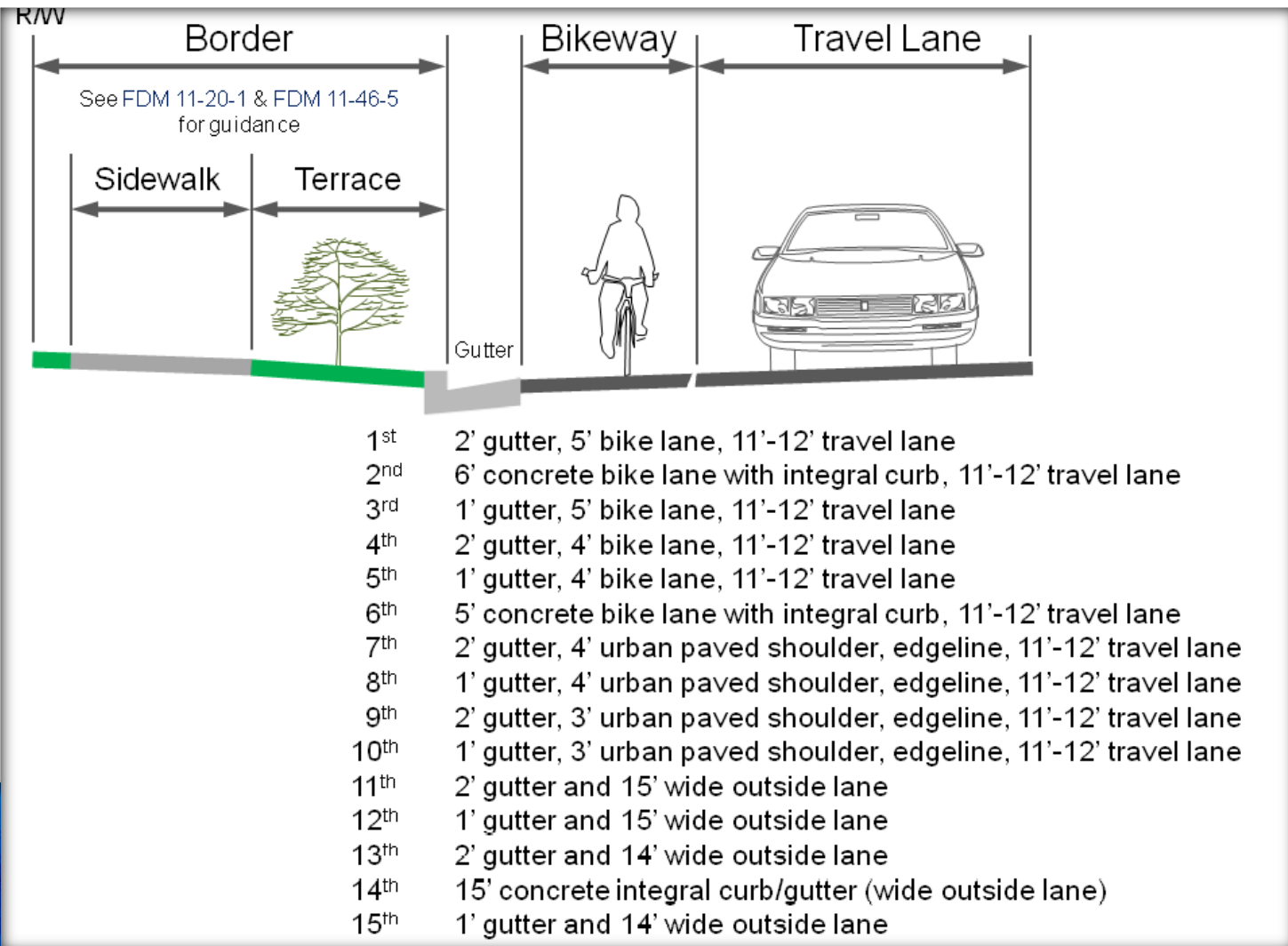
Bicycle Accommodations - Paved Shoulders

- ▶ Often required for additional reasons (FDM 11-15-1.4.1)
- ▶ Also assist with:
 - Avoidance Maneuvers
 - Run off the Road crash (ROR)
 - Pavement structure integrity
 - Mail delivery, breakdowns, occasional parking...

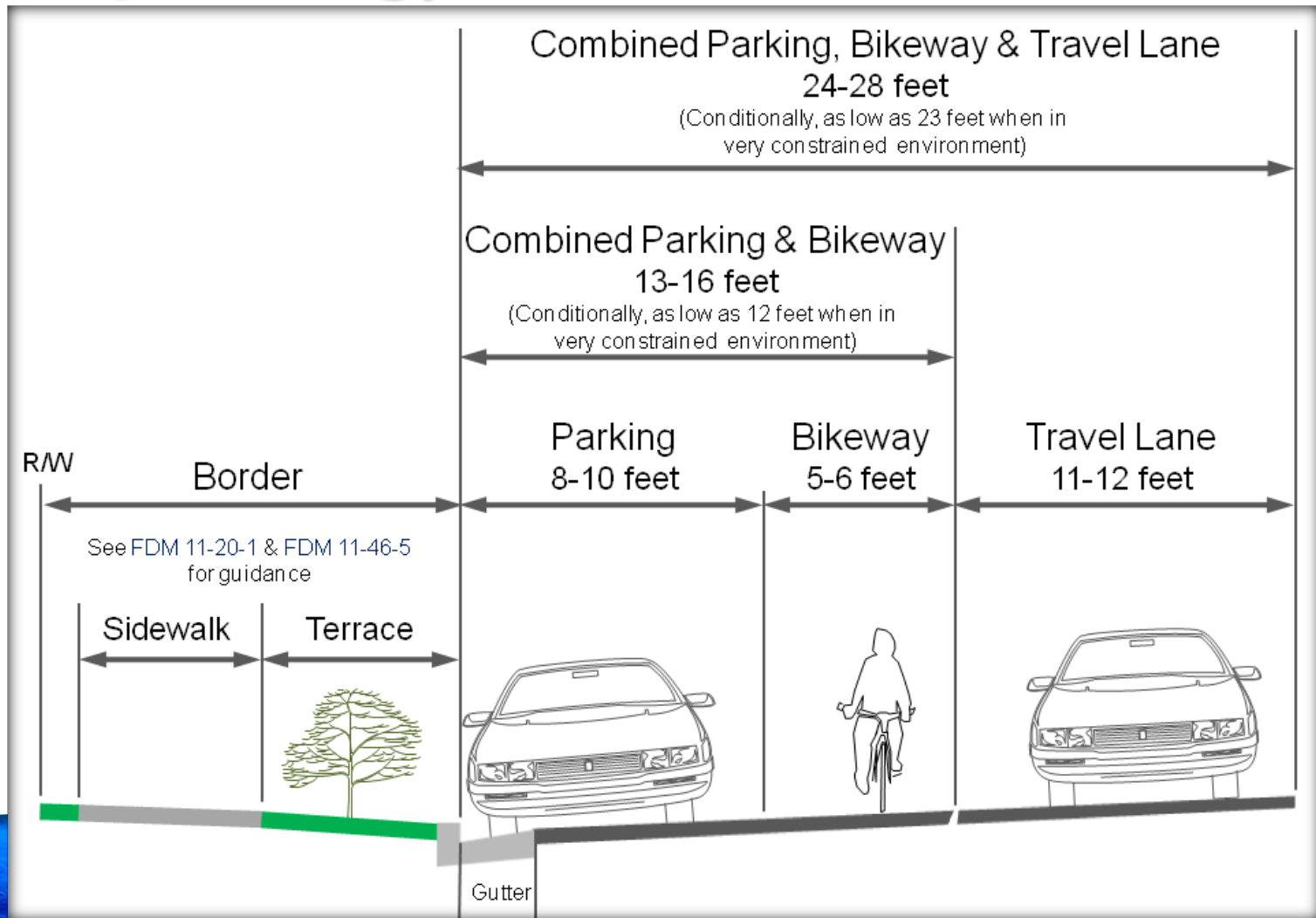
Wauwatosa Road Reconstruct – 5' Paved Shoulder



Bicycle Accommodations – Urban (no parking)

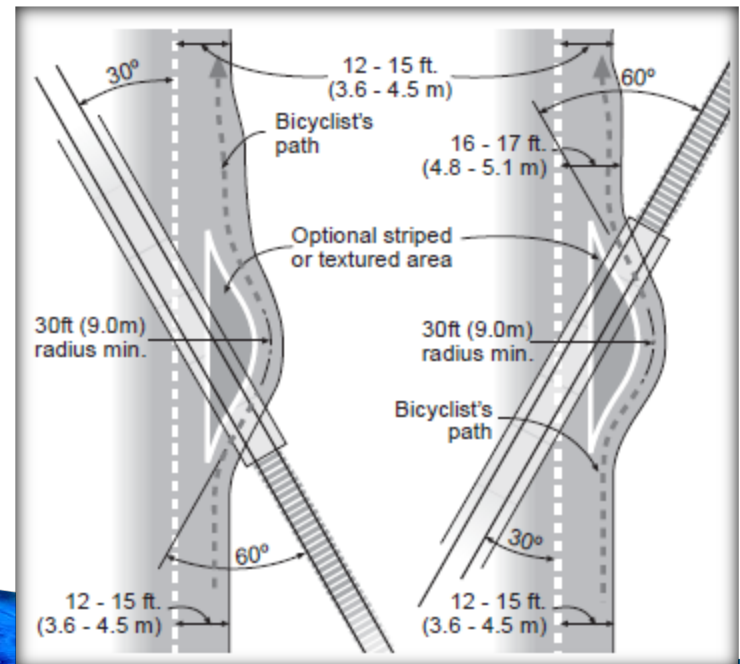


Bicycle Accommodations - Urban (with parking)



Bicycle Accommodations – Railroad Crossings

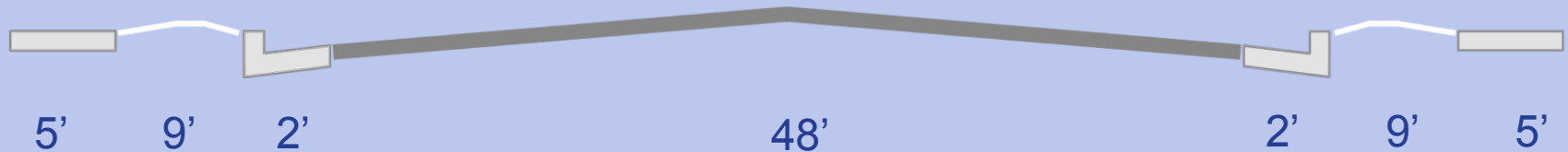
- ▶ Railroad crossings should be straight and at a 90-degree angle
- ▶ Remedial action needed for crossing < 60-degrees
- ▶ See Section 2.7 of the WI Bicycle Facility Design Handbook



Alternatives Evaluation



Example #1 – Golf Road, Eau Claire



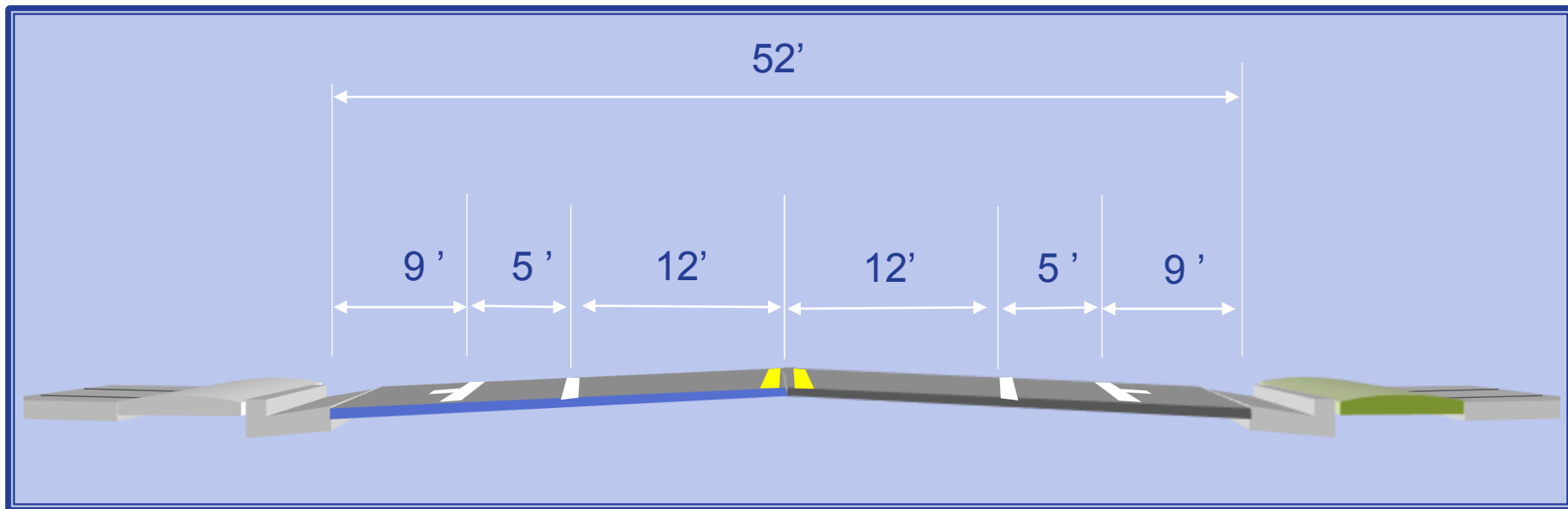
- ▶ Behind Mall
- ▶ 12,000 AADT
- ▶ 80-foot wide ROW

Multiple Options
Available

Example #1 – Golf Road

- ▶ Paint Only

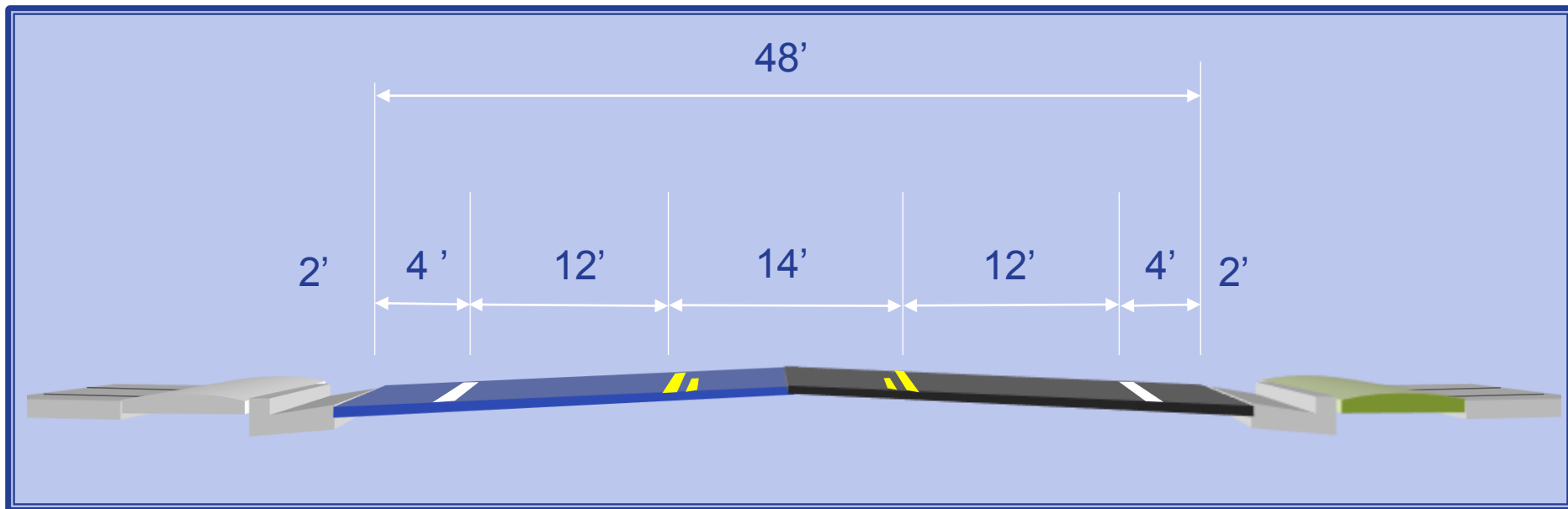
2 lanes with parking and bike lanes



Example #1 – Golf Road

- ▶ Paint Only

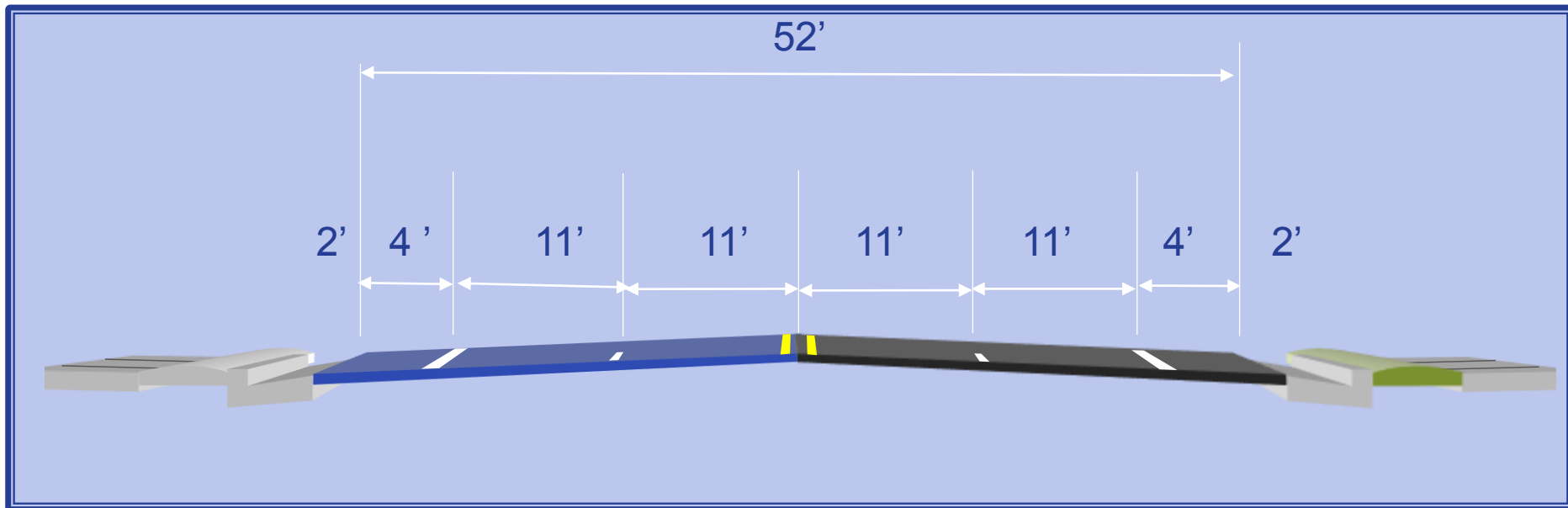
Road Diet – 2 lanes, TWLTL, bike lanes



Example #1 – Golf Road

► Reconstruct

4 lanes, bike lanes



Example #2 - STH 24 (Forest Home Ave.) - Milwaukee and Greenfield



Example #3 - Monona Drive

- ▶ Look for creative solutions



Trans 75 Documentation

- ▶ Attach to DSR for every project
- ▶ Use to identify needs, opportunities and document design decisions
- ▶ If omitting, use Exception Worksheets as well as supporting report per FDM 11-46

TRANS 75 COMPLETE STREETS COMPLIANCE CHECK SHEET			
Project ID 0000-00-00	Highway/Roadway City of	Limits/Termini	
County Kenosha	Unit of Government	Existing AADT (year)	Design Year AADT (year)
List of local land use plans reviewed /considered.	List of regional land use plans reviewed /considered.	List of local transportation and/or bicycle/pedestrian plans reviewed /considered.	List of regional transportation and/or bicycle/pedestrian plans reviewed /considered.
Existing Facility Number of Lanes: Lane Width: Cross Section Shoulder Type: <input type="checkbox"/> Rural Shoulder width (paved): <input type="checkbox"/> Urban Sidewalk: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Other: Bike/Ped Accommodation: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Other:		Proposed Improvement Number of Lanes: Lane Width: Cross Section Shoulder Type: <input type="checkbox"/> Rural Shoulder width (paved): <input type="checkbox"/> Urban Sidewalk: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Other: Bike/Ped Accommodation: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Other:	
Section 1 Project Type (check all that apply) (Trans 75 and FDM 11-46-1)			
This project is: <input type="checkbox"/> New Construction – Trans 75 applies. <input type="checkbox"/> Reconstruction – Trans 75 applies. <input type="checkbox"/> Pavement Replacement – Trans 75 applies. <input type="checkbox"/> New Bridge – Trans 75 applies. <input type="checkbox"/> Bridge Replacement – Trans 75 applies.		<input type="checkbox"/> Bridge Redecking – Trans 75 applies. <input type="checkbox"/> Bridge Elimination – Depending on project scope, Trans 75 may apply. <input type="checkbox"/> Other – Explain: Go to Section 2 <input type="checkbox"/> None of the above – Improve bike/ped accommodations as appropriate, Trans 75 does not apply, go to Section 4.	
Section 2 Pedestrian Accommodations (check all that apply) (FDM 11-46-5)			
<input type="checkbox"/> Pedestrian accommodations <u>are</u> being provided by: <input type="checkbox"/> Bridge overpass/underpass, accommodations addressed. <input type="checkbox"/> Sidewalk on both sides of the highway. <input type="checkbox"/> Sidewalk: <input type="checkbox"/> On one side of the highway <input type="checkbox"/> Sidewalk along a portion of the highway <input type="checkbox"/> A shared use path is provided *An exception is required. Explain mitigation efforts as part of the appropriate completed exception documentation.		<input type="checkbox"/> Pedestrian accommodations <u>are NOT</u> being fully provided because the following exceptions apply: <input type="checkbox"/> Prohibition of Bicycles and Pedestrians - Attach Exception 1 Worksheet. <input type="checkbox"/> Excessively disproportionate cost - Attach Exception 2 Worksheet. <input type="checkbox"/> Constrained environment - Attach Exception 3 Worksheet. <input type="checkbox"/> Absence of need - Attach Exception 4 Worksheet. <input type="checkbox"/> Refusal to maintain - Attach Exception 5 Worksheet.	
Section 3 Bicycle Accommodations (check all that apply) (FDM 11-46-15)			
<input type="checkbox"/> Bicycle accommodations <u>are</u> being provided by: <input type="checkbox"/> Bike Lanes. <input type="checkbox"/> Bike lane/parking lane combination. <input type="checkbox"/> Bike lane full time. <input type="checkbox"/> Short term parking restriction. Explain. <input type="checkbox"/> Wide curb lane or wide parking lane where parking is allowed. <input type="checkbox"/> Paved shoulders. Paved shoulder width is feet. <input type="checkbox"/> Other – Explain: <input type="checkbox"/> Bike accommodations: <input type="checkbox"/> On a portion of the highway <input type="checkbox"/> A shared use path instead of on-street accommodations ** ** Requires approval from the Project Services Section Chief- attach shared use path worksheet. Exception is required. Explain mitigation efforts as part of the appropriate completed exception documentation.		<input type="checkbox"/> Bicycle accommodations <u>are NOT</u> being fully provided because the following exceptions apply: <input type="checkbox"/> Prohibition of Bicycles and Pedestrians - Attach Exception 1 Worksheet. <input type="checkbox"/> Excessive cost - Attach Exception 2 Worksheet. <input type="checkbox"/> Constrained environment - Attach Exception 3 Worksheet. <input type="checkbox"/> Parking restrictions create only partial absence Explain: <input type="checkbox"/> Absence of need - Attach Exception 4 Worksheet.	
Section 4 Concurrence – Attach any supporting documents or reports			
We concur that pedestrian and bicycle accommodations are being provided in compliance with Trans 75 or that the project satisfies one of the exceptions stipulated in Trans 75. If the project scope changes after the bike/ped coordinator signature date the project manager will re-evaluate the accommodations and engage the bike/ped coordinator in further discussions.			
Signature (WisDOT Regional Project Manager)		Signature (WisDOT Regional Bicycle/Pedestrian Coordinator)	
Printed Name (WisDOT Regional Project Manager)		Printed Name (WisDOT Regional Bicycle/Pedestrian Coordinator)	
Date: _____		Date: _____	



Contact Info

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